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(54) Title: DATA GATHERING SYSTEM

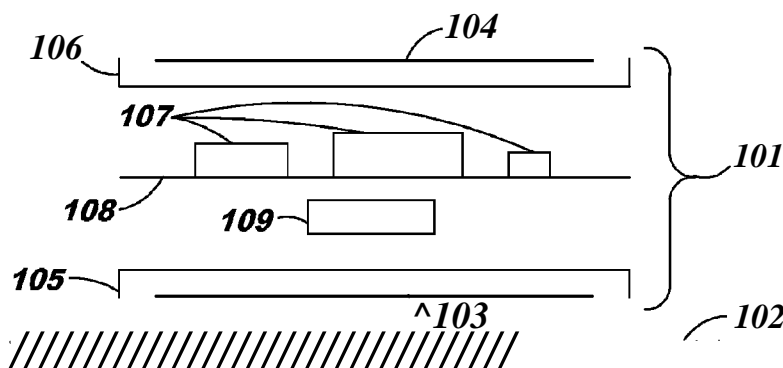


FIG. 1

(57) Abstract: A device for gathering data has first and second electrodes. The first electrode is coupled to a surface of interest, and the second electrode is coupled to "everything else" or "the air". The first electrode is shielded from the second, and from most sources of parasitic capacitance, by a shield that is driven by an active driver that drives the shield to track, and ideally to match, the instantaneous potential of the electrode. The second electrode is likewise shielded in a similar way from most sources of parasitic capacitance. These shields likewise help to limit the extent to which RFI from the device electronics couples with either of the electrodes. In this way the sensing device achieves a markedly better signal-to-noise ratio at frequency bands of interest.



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INTERNATIONAL SEARCH REPORT

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PCT/US2011/023013**A. CLASSIFICATION OF SUBJECT MATTER***A61B 5/04(2006.01)i, A61B 5/0408(2006.01)i, H04B 13/00(2006.01)I, G06F 19/00(2011.01)I*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61B 5/04; A61B 5/0478; A61B 5/0408

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: electrode, shield, gather

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004-0254435 A1 (MATHEWS ROBERT et al.) 16 December 2004 See abstract, paragraph [0030M0031], [0033], [0034], [0036], [0040], [0048], [0052], claims 1,3-4, 6, 8-9, 13 and figures 1,5,10,14	1,2
A	JP 2008-525063 A (FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.) 17 July 2008 See abstract, paragraph [0056]-[0057], [0065], claims 1,4 and figures 1A-B,2	3-12
A	JP 2001-061799 A (NABCO LTD) 13 March 2001 See abstract, paragraph [0014]-[0017] claim 1 and figures 1,3	1-12
A	DE 2008-152588 A2 (KONINKLIJKE PHILIPS ELECTRONICS N.V. et al.) 18 December 2008 See abstract, page 4, line 11-page 5, line 2, claim 1 and figures 2a-b	1-12

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004-0254435 A1	16 . 12 .2004	EP 1631 189 A1 EP 1631 189 A4 US 6961601 E2 wo 2004-1 10268 A1	08. 03.,2006 18. 02.,2009 01. 11.,2005 23. 12.,2004
JP 2008-525063 A	17 .07 .2008	EP 1827218 A2 US 2010-0060300 A1 wo 2006-066566 A2 wo 2006-066566 A3	05. 09 .2007 11. 03.,2010 29. 06 .2006 29. 06.,2006
JP 2001-061799 A	13 .03 .2001	None	
wo 2008-152588 A2	18 . 12 .2008	wo 2008-152588 A3 wo 2008-152588 A3	18. 12.,2008 18. 06 ,2009